

FM 24-6

WAR DEPARTMENT FIELD MANUAL

RADIO OPERATOR'S MANUAL

ARMY GROUND FORCES

RESTRICTED. DISSEMINATION OF RESTRICTED MATTER.
No person is entitled solely by virtue of his grade or position to knowledge or possession of classified matter. Such matter is entrusted only to those individuals whose official duties require such knowledge or possession. (See also paragraph 23b, AR 380-5, 15 March 1944.)

WAR DEPARTMENT • JUNE 1945

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This manual supersedes FM 24-6, 12 Apr. 43, including C 1, 21 Oct. 43, par. 2, T.C. No. 110, 31 Dec. 42 and Sec. I, W.D. Cir. No. 21, 16 Jan. 45.

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The radio procedure contained in this document supplements the Combined Radiotelegraph (W/T) procedure (CCBP 1) contained in FM 24-10. It is prescribed for use of ground forces of the Army. The procedure will become effective as follows:

In continental United States—1 Aug. 1945.

Outside continental United States—1 Nov. 1945 or as soon thereafter as deemed practicable by the senior Army Commander concerned.

All existing instructions in conflict with these regulations are superseded when this procedure becomes effective.

[AG 300.7 (4 May 45)]

BY ORDER OF THE SECRETARY OF WAR:

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CONTENTS

Section	I. GENERAL.	<i>Paragraph</i>	<i>Page</i>
	Purpose and references	1	1
	Scope	2	1
	Definitions	3	1
	 II. RADIOTELEGRAPH PROCEDURE.		
	General	4	7
	Radio nets	5	7
	Prosigns	6	9
	Operating signals	7	11
	Calling	8	11
	Answering	9	13
	Establishing a net	10	15
	Frequency adjustments	11	17
	Readability and signal strength ...	12	17
	Net operation	13	19
	Precedence of messages	14	25
	Forms of messages	15	26
	Message handling	16	30
	Special portions of messages	17	38
	Servicing messages	18	40
	Special methods of message handling	19	40
	Executive method	20	45
	Miscellaneous	21	46
	 III. SINGLE CALL SIGN METHOD.		
	General	22	47
	Normal method	23	48
	Controlled method	24	49
	 IV. NORMAL FORM MESSAGES.		
	Normal form messages	25	50

Section V. PROSIGNS.	<i>Paragraph</i>	<i>Page</i>
Prosigns	26	53
VI. OPERATING SIGNALS.		
Operating signals	27	62
VII. MISCELLANEOUS.		
Procedure messages	28	64
Service messages	29	64
Authentication	30	65

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RESTRICTED

SECTION I

GENERAL

1. PURPOSE AND REFERENCES. The purpose of this Field Manual is to provide a guide for training field radio operators in radiotelegraph procedure and ready reference data required in the operation of field radio communication. The procedure contained herein describes the brief, basic method of operation that will be employed by units of the Army Ground Forces, and especially by radio stations within the division.

2. SCOPE. The information contained in this manual in conjunction with FM 24-10, "Combined Radiotelegraph (W/T) Procedure (CCBP 1)" and FM 24-12, "Combined Operating Signals (CCBP 2-2)" includes adequate data for radiotelegraph operation within divisions, with illustrated examples of each operation. Radiotelephone procedure is prescribed in FM 24-9 and is similar in method to the radiotelegraph procedure prescribed herein. Reference lists of procedure signs are included in section V.

3. DEFINITIONS. a. As used in this publication, the following terms have the meanings indicated opposite each:

(1) *Addressee.* (a) The authority (person or office) to whom the message is directed by the originator. The term includes a representative authorized

by an addressee to receive his messages. Addressees may be indicated as action addressees or information addressees, and one message may include either or both.

(b) *Action addressee.* The authority to whom the message is directed by the originator for action.

(c) *Information addressee.* The authority to whom the message is directed by the originator for information only.

(2) *Contact reports.* A report containing information of the enemy given by units coming in first contact with the enemy. The first such report is termed the "initial contact report," and contains information immediately available.

(3) *Date-time group.* The date-time group may be used as a message reference number. Such use is optional.

(4) *Direct and indirect communication.* When the originator's station can communicate with the station(s) of addressee(s) without relaying aid from any other station(s), these stations are said to be in direct communication. Communication is indirect when relaying aid is required.

(5) *Frequency assignment.* The frequency assignment of a station is the frequency or frequencies, usually expressed in kilocycles (kc) or megacycles (mc), on which the station is authorized to operate. For sets which are calibrated in channels or dial settings, this assignment is made by indicating the numbers of the channels or dial settings.

(6) *Internet traffic.* Traffic between stations which are not assigned to the same net.

(7) *Signal or message center.* Army message handling agency.

(8) *Message center number.* A message center number is a number assigned by a message center for internal administrative purposes.

(9) *Message reference number.* A message reference number is any of the various types of identifying numbers or symbols assigned to messages.

(10) *Multiple address messages.* Messages having two or more addressees.

(11) *Operating signals.* (a) Combined operating signals are three-letter combinations beginning with Q, used to facilitate the handling of traffic, to direct net operation, or to convey certain originator's instructions in a message. The meaning of certain operating signals may be amplified by the addition of a numeral.

(b) Three-letter operating signals beginning with Q are used also by aircraft to convey certain operational information such as movements of aircraft, reports during flight, and meteorological advice.

(12) *Operator's service.* The operator's service consists of the time of receipt or transmission with zone suffix letter and the operator's personal sign.

(13) *Originator.* The originator (commander) of a message is the authority who orders the message to be sent. The authority may be the commander or his officially designated representative(s).

(14) *Procedure message.* A brief communication pertaining to handling traffic or to operating the net and normally prepared by operators.

(15) *Prosigns.* The word "prosigns" is a shortened form of "procedure signs." Prosigns are single letters or characters, or combinations thereof, used to facilitate communication by conveying, in a condensed standard form, certain frequently used orders, in-

structions, requests, and information related to communication.

(16) *Radiotelegraphy*. Radio communication by means of International Morse characters.

(17) *Radiotelephony*. Radio communication by means of voice signals.

(18) *Response*. The term "response" includes any of the following:

(a) *Answer*. The transmission made by a station called, in response to a call received.

(b) *Acknowledgment*. A separate message from the addressee informing the originator that his message has been received and is understood.

(c) *Receipt*. A communication sent by the receiving station indicating that the message or other transmission has been satisfactorily received by that station.

(d) *Reply*. A message originating out of, referring to, or replying to a question asked in a prior message.

(19) *Station log*. A chronological record of traffic and unusual events kept at a station.

(20) *Station serial number*. A station serial number is a message reference number assigned by a transmitting operator to each message transmitted to another station in direct communication and is carried in the heading of the message.

(21) *Traffic*. All transmitted and received messages.

(22) *Transmission*. A communication sent by one station and intended for reception by another station or stations.

(23) *Trick or watch*. A tour of duty as an operator.

b. The following terms, frequently encountered in the handling of messages in headquarters larger than the division, are furnished for the information of operators:

(1) *Circuit*. A circuit is an electrical means of communication between points or stations and may be either radio or wire. A signal communication network or system is composed of circuits connecting the several stations of the network or system.

(2) *Circuit number*. A circuit number is a number or symbol assigned to each circuit of a signal communication network or system, for references and identification purposes connected with engineering, installation, and maintenance.

(3) *Channel*. A channel is one electrical path over which transmission can be made from one station to another. A circuit may carry more than one channel.

(4) *Channel letter*. When more than one channel is available between two stations an identifying letter is assigned to each channel. This letter is called the channel letter.

(5) *Channel number*. A channel number is a station serial number assigned to each message transmitted over a particular channel connecting two communication centers where more than one channel is maintained.

(6) "*CM-IN and CM-OUT*" numbers. CM-IN and CM-OUT numbers are message reference numbers assigned by the classified message center in the War Department or other large headquarters primarily for reference purposes within the War Department or such other large headquarters. (CM is the abbreviation for a classified message.)

(7) *Communication office.* Navy message handling agency, which functions similarly to an Army signal or message center.

(8) *Originator's reference number.* An originator's reference number is a message reference number included in the text of a message for the purpose of reference between the originator and the addressees. The employment of this number is optional.

(9) *Radio guard.* A radio guard is a ship or other radio station designated to listen for and record transmissions, and to handle traffic on a designated frequency for certain unit(s).

SECTION II

RADIOTELEGRAPH PROCEDURE

4. GENERAL. Radio is one of the principal means of communication within all units of the Army. It is used between rapidly moving units where wire communication is difficult, to cross areas where wire or messenger communication is impracticable, between vehicles, and between ground units and aircraft. It is subject to interception, location, and jamming by the enemy and is affected by terrain and weather conditions.

a. Radiotelegraphy is normally employed between units of higher echelons; in some cases its use is extended down to platoons. Operators trained to send and receive the International Morse characters are required.

b. Radiotelephone is normally employed within the lower echelons, for air-ground operation over distances usually required for observation flights, and in some cases for command and control purposes.

5. RADIO NETS. a. In order that radio communication may follow the proper channels of tactical command, the radio station of a superior unit and the radio stations of its next subordinate units are grouped, by being on the same frequency, for operation with one another. This group is called a net. The composition of each net depends upon the tactical grouping of units within a command.

b. The grouping of radio sets into nets requires a definite radio procedure to adjust equipment, to control transmission, and to clear messages. A net is organized only for the purpose of exchanging messages. Correct radio procedure under any operating condition is characterized by brevity, uniformity, and simplicity. When special operating conditions require procedures not illustrated in detail in this manual, the briefest common-sense application of the principles and signals contained herein will be used.

c. In order to have centralized control and maintain discipline in a net, a net control station (NCS) is required. This NCS has full authority in matters of technical control, but none over internal organization or tactical employment of any station. Other stations in the net are known as subordinate or secondary stations. The station of the superior unit is the NCS, unless another station is so designated. An alternate NCS (NC2) may be designated to control the net in the absence of the primary NCS. Strict discipline is essential for efficient communication in any radio net.

d. Every radio net is assigned a frequency on which it must operate, and every station is assigned a call sign by which it is identified. Stations within the same headquarters should be assigned different call signs. A call sign, termed the "net call," is also assigned to designate the entire net. Call signs are composed of three or four characters. Call words, often used to identify radiotelephone stations, consist of a word, or a word and a numeral, such as "BOSTON": "BATO 6." Call signs are published for each station in Signal Operation Instructions and are changed at frequent intervals to insure security.

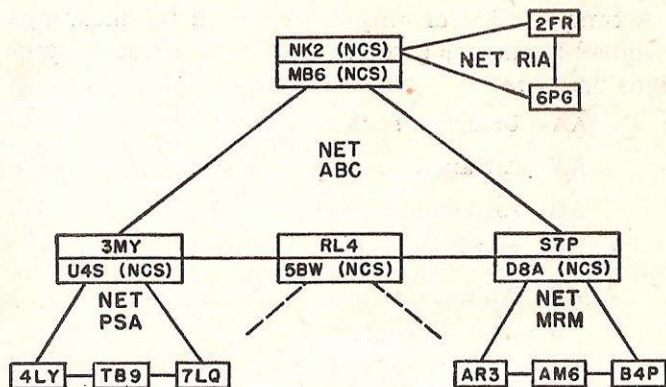


Figure 1. Net Organization. (The radio nets shown above are those referred to in all examples throughout this manual.)

e. The organization of several radio nets is shown in figure 1. The nets and stations appearing therein are used in the examples of net procedure and operation within this text, and should be referred to when examples are studied.

6. PROSIGNS. Procedure signs, referred to as "prosigns," are single characters or combinations thereof, assigned meanings to expedite the control and operation of radio nets and the handling of messages. These must be memorized by the operator. When two or more letters are used to form a prosign they are printed overscored, as AR. The overscoring indicates that the letters so written are transmitted as one continuous character with no spacing between them.

Example

A being transmitted dit dah and R being transmitted dit dah dit, the prosign AR is transmitted dit dah dit dah dit.

A complete list of all prosigns, with the meanings assigned to each, is given in section V. Principal prosigns used are:

- AA Unknown station.
- AA All after.
- AB All before.
- AR End of transmission: no response expected.
- AS Wait.
- B More to follow.
- BT Long break.
- C Correct or the following is a correct version.
- EEEEEEEE Error.
- II Separative sign (indicated as -).
- IMI Repeat or I will repeat.
- INT Interrogatory.
- J Verify and send correct version.
- K Go ahead (end of transmission: response necessary).
- R Received.
- V From.
- WA Word after.

Every transmission will end with either the prosign K or the prosign AR. They are referred to as "ending signs" and have the following meanings:

K "Go ahead; transmit. This is the end of my transmission to you and a response is necessary."

AR "This is the end of my transmission to you and no response is required or expected."

7. OPERATING SIGNALS. a. Operating signals are three-letter groups having Q as the first letter, and are therefore commonly called "Q signals." They facilitate communication by expressing in a condensed, standard form, certain orders, instructions, and requests frequently exchanged between radio stations during communication.

b. The prosign $\overline{\text{INT}}$ transmitted preceding an operating signal indicates that the meaning of the operating signal is changed to the form of a question.

Example

QVF means: "Send a series of V's on this frequency."

$\overline{\text{INT}}$ QVF means: "Shall I send a series of V's on this frequency?"

c. All blanks appearing in operating signals and not inclosed in parentheses will be filled in; the filling in of blanks inclosed in parentheses is optional. When a blank is filled in by use of a number it will be transmitted as a numerical digit and not spelled out. Data used to fill in blanks will appear in the same order as the blanks occur in the meaning of the signal.

8. CALLING. a. **General.** A call consists of—

(1) The call sign(s) of the station(s) called....RL4

(2) The prosign "V," meaning "From".....V

(3) The call sign of the station calling.....MB6

b. **Calling one station.** (1) A preliminary call is used to establish communication preparatory to the transmission of traffic.

Example

RL4 V MB6 K

This is referred to as a "short call." When communication is difficult the call signs may be sent twice.

Example

RL4 RL4 V MB6 MB6 K

This is referred to as a "long call."

(2) If the called station fails to answer promptly, the initial call is repeated.

(3) If the second call is not answered, the calling station will wait a reasonable time and again send the call at such intervals as operating conditions, the needs of other stations in the same net, and the urgency of the calling station's traffic may warrant.

c. Multiple calls. Several stations in a net may be called at the same time by using the call sign of each in a single call, called a "multiple call." The call signs of stations thus called will ordinarily be sent in alphabetical order, but may be sent in some other order in which it is desired that the called stations will reply. In determining alphabetical order of call signs for this or any other purpose, it is assumed that the numerals 1 to 0, respectively, are the twenty-seventh to thirty-sixth letters of the alphabet.

Examples

(1) RL4 S7P V MB6 K

(2) TB9 7LQ V U4S K

(3) AR3 B4P V D8A K

d. Collective calls. Any group of two or more stations in the same net may be included in a single call by assigning to that group a single call sign, termed a "collective call sign." This is useful in instances where the same stations would otherwise be frequently called with a multiple call, which is longer. Assuming that PS2 is a collective call sign assigned to stations 3MY and RL4, they may be called as follows:

Multiple call: RL4 3MY V MB6 K
Collective call: PS2 V MB6 K

e. Net call. When all stations in the same net on the same frequency are covered by a "collective call sign," this call sign is termed the "net call sign." All stations in the net may be called simultaneously by use of the net call.

Example

ABC V MB6 K

f. Net, multiple, and collective calls may be transmitted as either short or long calls, as circumstances require. For instance, if communication is poor, a multiple call may be transmitted as follows:

Example

RL4 RL4 3MY 3MY V MB6 MB6 K

g. Abbreviated calls. For any call except a call used to establish communication or in the initial transmission of a message, and when operating conditions are such that confusion cannot result, an "abbreviated call" may be used. The abbreviated call omits the call sign of the station called, or in two-station nets, both call signs may be omitted.

Examples

Instead of: MB6 V RL4 K

Abbreviate thus: V RL4 K

In two-station net: K

While a majority of the examples throughout this manual show the complete call for clarity, use of abbreviated calls considerably speeds operations.

9. ANSWERING. **a.** The answer is a response to a call, and is similar to the call itself.

Example

- (1) (Call) RL4 V MB6 K
(2) (Answer) MB6 V RL4 K
or (3) (Answer) MB6 V RL4 $\overline{AS}$ (A few seconds' wait) K

Example (3) indicates that RL4 is not ready to work for a few seconds. If the wait is to be long, RL4 will add the ending sign $\overline{AR}$, releasing the calling station to other operation and terminating the current exchange of transmissions.

b. To answer a call when communication is difficult, call signs may be sent twice.

Example

MB6 MB6 V RL4 RL4 K

c. **Answering net and collective calls.** Net calls are answered in the alphabetical order of call signs of the stations included by the call. If net call ABC, transmitted by station MB6, includes called stations RL4, S7P, and 3MY, they answer the net call as follows:

Example

MB6 V RL4 K
MB6 V S7P K
MB6 V 3MY K

Answering a collective call conforms to the same method as the answering of a net call.

d. **Answering multiple call.** Stations answer a multiple call in the order in which their call signs appeared in the call.

Examples

- (1) Stations called in alphabetical order:

Call: RL4 S7P V MB6 K
Answer in order called: MB6 V RL4 K
MB6 V S7P K

(2) Stations called in special order, not alphabetical:

Call: S7P RL4 V MB6 K
Answer in order called: MB6 V S7P K
MB6 V RL4 K

e. If any called station fails to answer a net, collective, or multiple call in correct sequence, the next station in order of answering waits 5 seconds and then answers. Any station which misses its turn must wait until all other stations have answered and then answers.

f. Occasionally an operator recognizes his own call but fails to get the call sign of the calling station. He answers, using the "unknown station" prosign AA.

Example

AA V RL4 K

10. ESTABLISHING A NET. a. A net is established by the NCS. Prior to its establishment, subordinate stations must not call the NCS in attempts to enter the net. Transmissions are kept to a minimum in establishing a net, and all stations tune their receivers to the NCS on his first call to the net and in turn zero beat (adjust) their transmitters with their receivers. However, any secondary station having traffic for another station may call that station before the net is opened and send its traffic. An acting or alternate NCS (NC2) is appointed by the NCS when the regular NCS leaves the net temporarily. When the NCS is out of action, or leaves the net without appointing an NC2, the next senior

station automatically takes over. The duties, responsibility, and authority of the NCS apply to the NC2 when acting as NCS.

b. When the net is to open, station MB6, the NCS, listens in on the prescribed frequency, and hearing nothing, then calls the net.

Example

ABC V MB6 K

When no station in the net answers, the call will be repeated as previously described in paragraph 8b(2). Individual stations that do not respond to the net call when the net is opened may be called individually by the NCS. Stations opening late, when they ascertain by listening that the net has been organized, call the NCS individually and report into the net using the operating signal QMG, meaning "Station reports into the net."

Assuming that the net call has been transmitted as shown above, subordinate stations constituting the net answer as follows:

MB6 V RL4 K

MB6 V S7P K

MB6 V 3MY K

Assuming there is no traffic awaiting transmission, the NCS receipts for the above answer as follows:

ABC V MB6 R $\overline{AR}$

Assuming RL4 was unable to respond to the net call which opened the net, he calls the NCS individually using the operating signal QMG:

MB6 V RL4 QMG K

For communication security reasons the NCS normally will not announce what stations are in the net.

When such information is required it is ordinarily passed by secure means such as cryptographed messages.

11. FREQUENCY ADJUSTMENTS. Net operation requires precise adjustment of all sets to the assigned net frequency. Unless the equipment of stations constituting a net permits automatic adjustment and maintenance of the assigned frequency, it is the duty of the NCS to adjust stations to the correct frequency when the net is opened and at such other times as may be necessary. Adjustments may be made by the use of such operating signals as QHF, QLF, and QMF.

Example

Assume that the NCS finds the frequency of S7P to be 8 kilocycles too high when he checks into the net. Station MB6, the NCS, finding S7P by tuning slightly above and below the net frequency, transmits:

S7P V MB6 QHF 8 K

S7P makes the necessary adjustments and transmits:

MB6 V S7P $\overline{\text{INT}}$ QMF K

MB6, finding the frequency correct, replies:

S7P V MB6 QMF $\overline{\text{AR}}$

(See FM 24-18 for method of adjusting radio sets on frequency.)

12. READABILITY AND SIGNAL STRENGTH.

a. Readability refers to the clarity with which signals are received, while signal strength is the actual loudness with which signals are received. Since loud signals are usually readable, requests and reports

referring to readability alone are usually used to indicate how signals are received. However, it sometimes occurs that a loud signal is of low readability due to interference, equipment trouble, etc., and conversely, that a weak signal is perfectly readable by being sharp and clear-cut. Readability and signal strength are reported, using appropriate operating signals in conjunction with a scale from 1 to 5 as follows:

<i>Report</i>	<i>Readability</i>	<i>Signal Strength</i>
1....	Unreadable	Scarcely perceptible.
2....	Readable now and then.....	Weak.
3....	Readable but with difficulty....	Fairly good.
4....	Readable	Good.
5....	Perfectly readable	Very good.

Readability and signal strength reports indicate the desired method of transmission and should be used in that sense. Readability and signal strength reports are not exchanged unless "3" or less, lack of any report being assumed to indicate satisfactory communications.

Examples

(1) Noting that the readability of signals from 3MY has fallen below a satisfactory signal, MB6 transmits:

3MY V MB6 QJS 3 K

3MY then adjusts his transmitter and transmits:

MB6 V 3MY INT QJS K

MB6 transmits:

3MY V MB6 QJS 4 AR

(2) Assuming communication has been unsatisfactory MB6 asks S7P to report signal strength and readability:

S7P V MB6 INT QJS INT QSA K

S7P responds:

MB6 V S7P QJS 3 QSA 3 $\overline{\text{AR}}$

b. Interference and atmospherics may be reported by use of the operating signals QRM and QRN. However, such reports should be made only when communication is unsatisfactory. *Operators must realize that there are few receiving locations entirely free from either natural or man-made static. Consequently some interference will be encountered at all times.*

13. NET OPERATION. **a.** Radio operators will conform strictly to the following operating rules:

(1) *Listen in before transmitting to avoid causing interference.*

(2) *Make only the minimum transmissions necessary to maintain the net and clear traffic.*

(3) *Send call signs clearly and accurately.*

(4) *Transmit at a speed no faster than that of the slowest operator in the net.*

(5) *Reply promptly to all transmissions requiring a reply.*

(6) *Conform strictly to prescribed radio procedure and regulations for maintaining signal security.*

b. Authentication. Authentication is the proving of the genuineness of a radio station, message, or person. Without it, enemy stations, representing themselves to be friendly, may send false messages and orders, or accept traffic from a station, thereby preventing or delaying delivery of messages to the proper destination. It is the responsibility of the radio operator to authenticate stations with which he is in communication. This is done as prescribed by the system in use. There are several authentication

systems available, and the one to be used by any unit is designated in the current Signal Operation Instructions (SOI).

c. Stations within a net communicate directly with any other station or stations in the net, making only the minimum transmissions necessary to maintain the net and clear traffic. However, when necessary to maintain net discipline, the NCS may prescribe, by the use of an appropriate operating signal (QKG), that any or all stations in the net obtain permission before transmitting messages. By the use of the operating signal QOM, the NCS may limit the transmission of traffic to messages of high precedence. (See par. 14.) When an order of this type is given it remains in effect until canceled.

d. Radio silence is the shut-down of radio transmission within a command as ordered by the commander.

(1) When radio silence is imposed on a station or net, the transmitters of all radio sets used for signal communications will be completely shut down and will not be operated except during emergencies specifically described in orders. Receivers will remain in operation on net frequencies unless special orders are issued to the contrary. When radio silence is imposed on sets of the transceiver type, the receiver will remain in operation but the transmitter will be shut down.

(2) Radio silence may be imposed on one or more stations or nets within a command by the commander having jurisdiction. He will also prescribe under what conditions radio silence may be broken in emergencies and who will be held responsible.

(3) Radio silence will not be imposed on terminals of lateral circuits or on those to higher headquarters without agreement between commanders concerned.

(4) Radio silence is used to prevent the enemy from learning by radio intercept of the existence or location of units or individual stations, and occasionally to maintain net discipline. In order that an enemy station may not impose silence upon our stations, orders relating to silence restrictions will normally be sent by cryptographed messages.

e. Emergency silence. (1) When authorized by local instructions, emergency silence may be imposed by using the prosign $\overline{HM}$, transmitted three times, using the following procedure:

(a) Station MB6 imposes emergency silence on all stations in net ABC:

ABC V MB6 $\overline{HM}$ $\overline{HM}$ $\overline{HM}$ $\overline{AR}$

Secondary stations do *not* answer.

(b) Station MB6 directs station 3MY to cease transmission on 2700 kc only.

3MY V MB6 $\overline{HM}$ $\overline{HM}$ $\overline{HM}$ 2700 $\overline{AR}$

3MY does not answer.

(c) To cancel emergency silence MB6 transmits:

(To cancel (a) above):

ABC V MB6 QQZ $\overline{HM}$ $\overline{HM}$ $\overline{HM}$ $\overline{AR}$

(To cancel (b) above):

3MY V MB6 QQZ $\overline{HM}$ $\overline{HM}$ $\overline{HM}$ 2700 $\overline{AR}$

(2) Local instructions cover those conditions under which radio silence may be broken.

f. Stations, including the NCS, may temporarily leave the net to communicate with stations in another net, adjust equipment, or for other reasons. Internet

traffic, however, should ordinarily be handled by relay. Whenever the NCS leaves the net, he must designate another station to take over control of the net until his return.

Example

(1) Subordinate station indicates his intentions temporarily to leave the net:

U4S V TB9 QLG K

If this action is approved by the NCS he transmits:

TB9 V U4S QPZ $\overline{AR}$

(2) Subordinate station requests permission to leave the net temporarily to communicate with station AM6 in another net:

U4S V TB9 QLG AM6 K

If this action is approved by the NCS he transmits:

TB9 V U4S QPZ $\overline{AR}$

(3) A station having obtained permission to leave his own net, to communicate with a station in another net, will first listen in on the frequency of the net in which he is to work temporarily. Hearing no transmissions, he then calls the net and states the nature of his business. For example, station TB9, having obtained permission to communicate with station AM6 in another net whose net call is MRM and whose NCS is D8A, transmits:

MRM V TB9 QMG QMM AM6 K

The NCS authorizes TB9 to send his message:

TB9 V D8A QPZ $\overline{AR}$

AM6 hearing these transmissions then transmits:

TB9 V AM6 K

In the absence of special instructions to the contrary, when the precedence of the message justifies, the

transmitting station may call the station to whom the message is addressed without obtaining permission from the called station's NCS. It must also be remembered that the tactical situation may demand that a station leave the net immediately without waiting for approval by the NCS.

(4) The NCS may refuse a secondary station permission to leave the net to transmit a message and direct that the internet message be handled by relay.

TB9 V U4S QQZ QQU K

(5) NCS leaves the net for 30 minutes and designates 4LY as temporary NCS.

(a) Calling the new NCS only:

(Call) 4LY V U4S QPG QLG 30 K

(Answer) U4S V 4LY R AR

(b) Calling the entire net:

(Call) PSA V U4S QLG 30 4LY QPG K

(Answers by secondary stations) $\left\{ \begin{array}{l} \text{U4S V TB9 R } \overline{\text{AR}} \\ \text{U4S V 4LY R } \overline{\text{AR}} \\ \text{U4S V 7LQ R } \overline{\text{AR}} \end{array} \right.$

g. When radio communication is no longer required within a net or with a certain station, the net or station may be "closed down" and the radio set(s) turned off. Orders to close down will ordinarily be passed by secure means such as cryptographed messages properly authenticated. When authorized by local instructions the following procedure may be used:

(1) The NCS orders the net closed by using the operating signal QNW:

ABC V MB6 QNW K

All stations receipt as in paragraph 13f (5) (b) above.

(2) The NCS closes down one station:

(Call) RL4 V MB6 QNW K

(Answer) MB6 V RL4 R $\overline{AR}$

(3) One station requests permission to close down:

MB6 V RL4 $\overline{INT}$ QNW K

If this action is approved by the NCS, he transmits:

RL4 V MB6 QPZ $\overline{AR}$

(4) One station indicates that it must close down, using operating signal QPW:

MB6 V RL4 QPW $\overline{AR}$ (or K)

h. Operators will keep a log at each station, making such entries as may be directed by the unit signal or communication officer. These entries consist of brief notes as shown on the inside back cover of "Radio Station Log" (WD, AGO, Form 486, 13 Jul 44).

RADIO STATION LOG

SHEET NO. <u>1</u>		SHEET NO. <u>1</u>	
DATE	STATION CALL SIGN	STATION CALL SIGN	FREQ. CODE
25 NOV 44	DBA	MRM	BACON
STATION CALL SIGN	TIME	DATE	25 NOV 44
DBA	0600Q	MRM V DBA K	
NET CALL SIGN	01	DBA V AM6 K	
MRM	01	DBA V B4P K	
FREQ. CODE	02	AM6 B4P V DBA R $\overline{AR}$	
BACON	02	AR3 V DBA K	
OPENED	03	AR3 V DBA K	
0600Q	06	AR3 V DBA K	
CLOSED	10	DBA V AR3 QMG K	
CH. OPR.	10	AR3 V DBA R $\overline{AR}$	
RFC	20	DROPPED MICROPHONE BUT SEEMS OK	
ASST. OPR.			
FPW			

Figure 2. Portion of complete log.

However, during the early stages of training, logs should be complete, showing all traffic and procedure signals transmitted over the net, as indicated in figure 2 preceding.

14. PRECEDENCE OF MESSAGES. a. Messages are divided into precedence groups to show the relative order in which they will be transmitted and acted upon. This is done by the originator who assigns a "precedence" to each. Messages of the same precedence are transmitted in the order in which they are filed with the operator.

b. Message precedence is indicated by prosigns, which, listed in order of precedence, are as follows:

<i>Precedence</i>	<i>Prosign</i>
Urgent (Highest)	O
Operational Priority	OP
Priority	P
Routine	None—(R) *
Deferred (Lowest)	D*

*Routine messages bear no precedence indicator when filed, and are not identified by any prosign during transmission. They are identified by the prosign R when reporting precedence of traffic to be transmitted. Deferred precedence is rarely applied to tactical messages, and is not used within the division.

c. (1) "*Urgent.*" Reserved for reports of initial enemy contact, initial amplifying reports, and other messages which might materially affect plans or course of action and must therefore be brought to the attention of the addressees at the earliest possible moment. Urgent messages are given right-of-way over all messages of lower precedence.

(2) "*Operational Priority.*" Reserved for important messages pertaining directly to operations, except ordinary movement reports, which cannot be

classified as urgent, but which nevertheless must be delivered as rapidly as possible for prompt action. This precedence will be given only to operational traffic.

(3) "*Priority.*" Reserved for messages which cannot be designated as urgent or operational priority, but which nevertheless are pressing and require the addressee's immediate attention upon receipt. This is the highest precedence that can be given to administrative traffic.

(4) "*Routine.*" Reserved for messages requiring prompt delivery to the addressees, but no special precedence.

(5) "*Deferred.*" Reserved for messages requiring no special precedence and the delivery of which to the addressee may be delayed until the beginning of office hours following the day on which filed.

d. It is desirable to use a minimum number of precedences in order to reduce confusion and expedite transmission of messages. Precedence other than urgent and routine will seldom be used by stations within the division.

15. FORMS OF MESSAGES. a. **General.** Messages transmitted by radio stations within the Army are of two forms: the normal form and the abbreviated form. All messages transmitted within the division, including those transmitted by division headquarters stations to the stations of subordinate units, will habitually be in abbreviated form.

b. **Principal components.** Every message is composed of three principal components: a heading, a text, and a message ending. The heading and message ending are further divided into elements not all

of which appear in every message. All elements are covered in detail in section IV (Normal Form Messages). Both section IV and section V (Prosigns) should be studied in conjunction with paragraph 15c following.

c. Abbreviated form message. The omission from the heading of a normal form message of such elements as the station serial number, date-time group,¹ and group count¹ will result in the message being in abbreviated form. For information purposes the following table shows the abbreviated form message in its most complete form:

<i>Part</i>	<i>When sent</i>	<i>Example</i>
(1) The heading which includes—		
(a) The call	Always	RL4 S7P V MB6
(b) The preamble:		
Precedence	If assigned	—O— ²
Transmission instructions	If necessary	S7P-T-MRM-N-AR3
(c) The address:		
Originator's sign	If a relay message or if there are action and information addressees	—A—
Originator's call sign	If a relay message or if there are action and information addressees	MB6

¹ Local instruction may prescribe that these elements be included in abbreviated form message.

² See paragraph 26p entitled "Separative sign."

(c) The address (*continued*):

Date-time group	If prescribed ³	121315Q
Action call sign(s)	If a relay message or if there are information addressees	RL4 S7P
Information sign	If necessary	-W-
Information call sign(s)	If necessary	MRM
Exempt sign	If necessary	-N-
Exempt call sign(s)	If necessary	AR3

(d) Message instructions:

Group count	If prescribed ³	GR18
Long break	Always	<u>BT</u>

(2) The text:

Text as filed with operator	(Text)
-----------------------------	-------------

(3) The message ending which includes—

(a) Long break	Always	<u>BT</u>
(b) Date-time group	Always	121315Q
(c) Final instructions	If necessary	-B-S7P
(d) Ending sign	Always	K

³ These elements are included when prescribed by local instruction.

d. The message appearing in the preceding example has the following meaning:

(1) The heading—

(a) The call“To stations RL4, S7P from station MB6.”

- (b) The preamble:
 Precedence "The precedence assigned to this message is urgent."
 Transmission instructions "Station S7P retransmit this message to net MRM exempting station AR3."
- (c) The address:
 Originator's sign and call sign "The originator of this message is station MB6."
 Date-time group "This message was signed (or filed at the message center) at 1315 in time zone Q on the 12th day of the month."
 Action call sign "This message is addressed to stations RL4 and S7P for action."
 Information sign and exempt sign
 and call sign "This message is for information only to stations in net MRM exempting station AR3."
- (d) Message instructions:
 Group count "The text of this message contains 18 groups."
 Long break "Text of message follows."
 (2) Text: As filed with operator.
 (3) The message ending—
 (a) Long break "Text ends."
 (b) Date-time group (Same as 15d(1) (c) above.)
 (c) Final instructions "There is more to follow to station S7P."
 (d) Ending sign "Go ahead; transmit. This is the end of my transmission to you and a response is necessary."

e. Most abbreviated form messages are not as complete as in the preceding example. The following are typical of messages transmitted within the division.

Routine message: 3MY V MB6 $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$
082320C K

Urgent message: 3MY V MB6-O- $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$
082320C K

f. When it is necessary to refer to or to identify a previously transmitted message during subsequent transmission, the date-time group may be used as the message reference number (see par. 16d (4), examples 10 and 13). This group consists of seven characters, in which the first two are figures representing the day of the month, the following four are figures representing the time, and the last is a letter representing the time zone. The date-time group will always appear in the message ending; it will also be included in the address if prescribed in local instructions.

16. MESSAGE HANDLING. a. A station having message traffic for another calls and reports what he has to transmit:

Example

(1) One message:

3MY V MB6 QMM K

or

3MY V MB6 K

When no misunderstanding will result, it is common practice to omit the operating signal QMM when calling to send one message.

(2) Two messages:

3MY V MB6 QMM 2 K

(3) One urgent message:

3MY V MB6 O K

(4) One urgent, two routine:

3MY V MB6 QMM 1 O 2 R K

b. The station called indicates his readiness to receive messages.

Examples

(1) Transmit all messages:

MB6 V 3MY K

(2) Transmit only urgent messages:

MB6 V 3MY QOM O K

(3) Not ready to take messages:

MB6 V 3MY $\overline{AS}$ (A few seconds' wait) K

or (4) Not ready to take messages:

MB6 V 3MY $\overline{AS}$ (More than a few seconds' wait) $\overline{AR}$

If 3MY must delay for more than a few seconds before taking messages from MB6, the transmission will terminate in $\overline{AR}$, thus releasing MB6.

c. Under good operating conditions, and when operators are sufficiently proficient, messages may be transmitted without preliminary call.

d. **Corrections and repetitions.** (1) When an error is made by the transmitting operator, he immediately sends the "Error sign" (EEEEEEEEEE), repeats the last word, group, prosign, or operating signal sent correctly and continues with the transmission.

Example

U4S V TB9 $\overline{BT}$ RRTLA OCEOH EMPLD KEMNO
EEEEEEEEEE EMPLD KEMNV LDKXX RRTLA
OCEOH $\overline{BT}$ 040935C K

(2) Difficult portions of clear text messages should be repeated by the transmitting operator, using the prosign IMI.

Example

“..REQUIRE THREE SELSYN IMI SELSYN MOTORS..”

(3) When a message is being transmitted to one station only, the receiving operator should obtain required repetitions by the break-in method whenever the equipment makes it possible. When using this method, the receiving station “breaks” the transmitting station by sending a series of dashes or “T’s.” Hearing these dashes, the transmitting station stops sending. After the receiving station sends the last word or group received correctly, the transmitting station resumes sending, starting with the group or word quoted.

Example

“MB6 V 3MY-O-BT LLXOM XPQRT SFNPU OSLRE....”

MB6 breaks by sending “T T T . . .” When 3MY stops transmitting MB6 transmits:

“SFNPU K”

3MY continues:

“SFNPU OSLRE DEWMX RFXXX
LLXOM XPQRT BT 041215C K”

Where the nature of the equipment is such that the above method is not practicable, the receiving station may “break” the transmitting station by use of an appropriate authorized operating signal such as “QRT.”

(4) A receiving operator who has missed, or is not sure of, a part or parts of a message, requests repetition by use of the prosign IMI, meaning “Repeat,” combined with the following prosigns and in some

cases with numbers to indicate message groups involved.

Prosign

Meaning

AA	All after.
AB	All before.
WA	Word or group after.

The above prosigns may also be used in conjunction with the prosigns J, meaning "Verify and send correct version," and C, meaning "Correct" or "Correct version is"

When requesting repetitions of portions of messages consisting of code groups or clear text, the code groups or words concerned will be identified by group number(s) transmitted as numerals, if a group count is used in the message, or by repetition of neighboring code groups or words if the group count is not used. Examples below marked with an asterisk (*) indicate the method to be used when the group count is used on abbreviated form messages.

Examples

The following message has been transmitted:

RL4 V MB6 -O- BT ERS PET SVT RMJ JUJ PSV FSK
ADT OLU BT 080935C K

*RL4 V MB6 -O- GR9 BT ERS etc.

Request	Reply
1. Repeat entire message: MB6 V RL4 <u>IMI</u> K (The foregoing method is also commonly used to obtain repetition of any part of a very short message.)	RL4 V MB6-RL4 V MB6-O- <u>BT</u> (TEXT) <u>BT</u> 080935C K

Request	Reply
2. Repeat heading: MB6 V RL4 <u>IMI</u> AB <u>BT</u> K	RL4 V MB6 AB <u>BT</u> -RL4 V MB6-O-K
3. Repeat all after heading: MB6 V RL4 <u>IMI</u> AA <u>BT</u> K	RL4 V MB6 AA <u>BT</u> (TEXT) <u>BT</u> 080935C K
4. Repeat date-time group: *MB6 V RL4 <u>IMI</u> AA 9 K or MB6 V RL4 <u>IMI</u> AA OLU K	RL4 V MB6 AA 9- <u>BT</u> 080935C K RL4 V MB6 AA OLU <u>BT</u> 080935C K
5. Repeat all after JUJ, which is the 5th group: *MB6 V RL4 <u>IMI</u> AA 5 K or MB6 V RL4 <u>IMI</u> AA JUJ K	RL4 V MB6 AA 5-PSV FSK ADT OLU <u>BT</u> 080935C K RL4 V MB6 AA JUJ-PSV FSK ADT OLU <u>BT</u> 080935C K
6. Repeat all before SVT, which is third group: *MB6 V RL4 <u>IMI</u> AB 3 K or MB6 V RL4 <u>IMI</u> AB SVT K	RL4 V MB6 AB 3-RL4 V MB6-O-GR9 <u>BT</u> ERS PET K RL4 V MB6 AB SVT-RL4 V MB6-O- <u>BT</u> ERS PET K
7. Repeat SVT, which is third group: *MB6 V RL4 <u>IMI</u> 3 K or MB6 V RL4 <u>IMI</u> WA PET K	RL4 V MB6 3-SVT K RL4 V MB6 WA PET-SVT K
8. Repeat third to fifth groups: *MB6 V RL4 <u>IMI</u> 3 TO 5 K or MB6 V RL4 <u>IMI</u> PET TO PSV K	RL4 V MB6 3 TO 5-SVT RMJ JUJ K RL4 V MB6 PET TO PSV- SVT RMJ JUJ K

RL4 before receipting for the message asks if the correct date-time group was 080935C:

Request

Reply

MB6 V RL4 INT 080935C K

RL4 V MB6 C K

(6) Procedure used in requesting repetitions in clear text messages:

Example

The following message has been transmitted:

RL4 V MB6 -O- BT PROCEED IMMEDIATELY SECOND
OBJECTIVE POINT ZEBRA CHARLIE DOG PD PLAN
TARE ONE EIGHT EFFECTIVE MIDNIGHT BT
152340C K

Request	Reply
1. Repeat single word: MB6 V RL4 <u>IMI</u> WA PROCEED K	RL4 V MB6 WA PRO- CEED - IMMEDIATELY K
2. Repeat consecutive words: MB6 V RL4 <u>IMI</u> PRO- CEED TO OBJECTIVE K	RL4 V MB6 PROCEED TO OBJECTIVE - PROCEED IMMEDIATELY SECOND OBJECTIVE K
3. Repeat fourth, sixth, and seventh words: MB6 V RL4 <u>IMI</u> WA SEC- OND - POINT TO DOG K	RL4 V MB6 WA SECOND - OBJECTIVE - POINT ZEBRA CHARLIE DOG K

e. Transmitting messages in strings. When radio communication is good, frequently the handling of traffic is facilitated if one station sends several messages to another without interruption. Arrangements for such transmissions may be made between stations concerned by use of operating signals QSG,

meaning "Send.....message(s) at a time." The transmitting station separates each message from the one to follow by the separative sign (-). This method is known as "transmitting in strings."

Example

MB6 V RL4 $\overline{BT}$ (TEXT) $\overline{BT}$ 080945C-MB6 V RL4 $\overline{BT}$
(TEXT) $\overline{BT}$ 080947C-MB6 V RL4 $\overline{BT}$ (TEXT) $\overline{BT}$
080951C K

The receiving station receipts for the string, using the date-time group as the message reference number for each message.

Example

RL4 V MB6 R 080945C-080947C-080951C $\overline{AR}$

Should the transmitting operator desire a receipt after the second message of the string sent above, he uses the prosign B meaning "More to follow."

Example

MB6 V RL4 $\overline{BT}$ (TEXT) $\overline{BT}$ 080945C-MB6 V RL4 $\overline{BT}$
(TEXT) $\overline{BT}$ 080947C-B K

The receiving station receipts for part of the string and indicates that the transmitting station is to continue with the string:

RL4 V MB6 R 080945C-080947C K

The transmitting station finishes string and obtains receipt:

MB6 V RL4 $\overline{BT}$ (TEXT) $\overline{BT}$ 080951C K
RL4 V MB6 R $\overline{AR}$
or: V MB6 R $\overline{AR}$

f. Long messages are usually sent in parts, with a receipt after each part. Coded messages are broken every 50 groups and clear text messages every 100 words.

Example

MB6 V RL4 BT (first 50 code groups)-B K
RL4 V MB6 R K

Transmitting station continues with messages as follows:

MB6 V RL4 51-(text beginning with 51st group)

g. During the transmission and before it is completed, the transmitting operator may cancel the message by sending the error sign (EEEEEEEE) followed by AR. This indicates that the message so interrupted is to be disregarded. A message completely transmitted and for which a receipt has been obtained, can be canceled or annulled only by the transmission of a message directing such action.

17. SPECIAL PORTIONS OF MESSAGES.

a. Numbers. (1) Numbers appearing in the heading or message ending of a message, and numbers used with operating signals (including those used to fill blanks in operating signals) and prosigns will be written and transmitted as numerical digits.

Examples

3MY V MB6-O-BT (TEXT) BT 071215C K
MB6 V 3MY R QMM 2 O 1 R K

(2) Numbers appearing in the text of a message will be sent either as numerical digits or spelled out, whichever method is used by the originator of the message.

Example

MB6 V 3MY-O-BT ONE HUNDRED ENEMY TANKS
MOVING NORTH ON ROUTE 18 HEAD OF COLUMN
HILL 609 AT 1500C BT 081504C K

b. Punctuation. (1) For the transmission of map grid coordinates, fractions, and mixed numbers, the

following punctuation marks may be used in clear text messages:

Transmission

Meaning

AAA.....Period or decimal. (When communicating with British Forces, "point" transmitted letter by letter must be used for decimal point.)

DU.....*Hyphen (not to be confused with the separative sign).

KK.....Parenthesis.

XE.....Slant (written "/").

*The hyphen is transmitted as DU; it is always copied by the receiving operator as "-". The separative sign is transmitted as dit dit dit dit. The receiving operator is not required to copy this prosign.

(2) Map grid coordinates written in accordance with the grid system are transmitted by using punctuation marks from the list above.

Example

Written: ".... (35.6-81.9)"

Sent: "....KK 35 AAA 6 DU 81 AAA 9 KK...."

(3) Fractions and mixed numbers, unless spelled out by the writer, will be sent as numerical digits, using the "slant sign" (XE) and the word "and" for mixed numbers.

Example

Written: 21½

Sent: 21 and 1 XE 2

(4) With the exceptions noted in (2) and (3) immediately above, punctuation marks appearing in clear text messages will not be transmitted.

Example

Written Message: FOLLOWING NEEDED: 50 K RATIONS, 600 ROUNDS CAL. 30 AND 2 BOXES 75 SHELLS.

Sent: FOLLOWING NEEDED 50 K RATIONS 600 ROUNDS CAL 30 AND 2 BOXES 75 SHELLS

(5) When punctuation is spelled out in the message by the originator, it will be transmitted letter by letter.

Example

3MY V MB6 BT LAY SMOKE SCREEN AT 0735C
PERIOD CARRY OUT PLAN ZEBRA PAREN EX-
CEPT PHASE TWO PAREN AT 0750C BT 150725D K

18. SERVICING MESSAGES. a. Each operator is assigned a "personal sign" consisting of one or two letters which differ from the personal sign of any other operator in the same headquarters.

b. Transmitting operators service each message sent, at the time of obtaining a receipt, by writing their personal sign and the time of receipt, and drawing a circle around these notations. This entry is spoken of as the "transmitting operator's service" and is written in any convenient place on the message blank. Similarly, the receiving operator services each message received with his personal sign and the time of receipt; these entries constitute the "receiving operator's service." The call sign of the transmitting station is added if it does not otherwise appear on the message. Local instructions may require that operators receiving messages in clear text for delivery direct to the addressee, enter in clear the address and designation of sender as determined from the call sign. (See figs. 3, 4, 5, and 6.)

19. SPECIAL METHODS OF MESSAGE HANDLING. a. **Relay messages.** (1) A message originating at one station, and addressed to another station not in direct communication with the originating station, may be delivered by relaying the message

THESE SPACES FOR MESSAGE CENTER ONLY		
TIME FILED 090802C	MSG CEN NO. 16	HOW SENT RAD
RL4 V MB6 -0-		0
MESSAGE (SUBMIT TO MESSAGE CENTER IN DUPLICATE)		PRECEDENCE
NO. _____ DATE _____		
TO _____		
0815C OD		
		090800C
OFFICIAL DESIGNATION OF SENDER TIME SIGNED		
SIGNATURE AND GRADE OF WRITER		

Figure 3. Transmitted message, showing operator's service.

THESE SPACES FOR MESSAGE CENTER ONLY		
TIME FILED	MSG CEN NO.	HOW SENT
RL4 V MB6 -0-		
MESSAGE (SUBMIT TO MESSAGE CENTER IN DUPLICATE)		PRECEDENCE
NO. _____ DATE _____		
TO _____		
0815C PG		
OFFICIAL DESIGNATION OF SENDER TIME SIGNED		
SIGNATURE AND GRADE OF WRITER		

Figure 4. Received message, showing operator's service.

THESE SPACES FOR MESSAGE CENTER ONLY		
TIME FILED 250830C	MSG CEN NO. 8	HOW SENT RAD
S7P V MB6 -0-		URGENT
MESSAGE (SUBMIT TO MESSAGE CENTER IN DUPLICATE)		PRECEDENCE
NO. 3	DATE 25 APR 45	
TO CG 1ST INF DIV		
BLOW TANAK BRIDGE		
<i>Send in clear</i>		
CG I CORPS		250825C
OFFICIAL DESIGNATION OF SENDER		TIME SIGNED
<i>John F. Smith, Capt. H&C</i> SIGNATURE AND GRADE OF WRITER		

Figure 5. Transmitted message, showing operator's service.

THESE SPACES FOR MESSAGE CENTER ONLY		
TIME FILED	MSG CEN NO.	HOW SENT
S7P V MB6 -0-		
MESSAGE (SUBMIT TO MESSAGE CENTER IN DUPLICATE)		PRECEDENCE
NO.	DATE	
TO		
BLOW TANAK BRIDGE		
250825C		
OFFICIAL DESIGNATION OF SENDER		TIME SIGNED
SIGNATURE AND GRADE OF WRITER		

Figure 6. Received message, showing operator's service.

through an intermediate station or stations. Some messages may require more than one relay. While only a small percentage of all radio messages are handled by relay, this method is most likely to be used for emergency communication and all operators must be prepared to use it promptly and accurately.

(2) Relaying is indicated by including in the heading of the message a group consisting of—

<i>Description</i>	<i>Example</i>
Transmission instructions	-T-
The originator's sign	-A-
Originator's call sign	4LY
Action addressee's call sign	-MB6

Example

An urgent message originating at station 4LY is sent to station U4S, in the same net, for relay to MB6 in another net. The group indicating the relay is underlined:

U4S V 4LY -O-T-A-4LY-MB6 BT (TEXT)
BT 090842E K

Regardless of the number of relaying stations through which the message passes, the relay group in the heading remains the same, indicating "This message was originally from 4LY and is addressed for action to MB6." The pro-sign T may be omitted from the relay group when the message is being transmitted to the action station(s).

b. Repeat back messages. The originating station may require the receiving station to repeat back a message. This is accomplished by inserting the pro-sign G, meaning "Repeat back," in the heading.

Example

MB6 V RL4-G-BT KVWR XVRT LPSM BT 090742D K
 RL4 V MB6-MB6 V RL4-G-BT KVWR XVRT LPSM
BT 090742D K

When the repetition is correct:

MB6 V RL4 C AR

Since MB6 repeated the message back correctly, it is obvious that another transmission to indicate receipt is not necessary.

If the receiving station repeats back any portion of the message incorrectly, the originating station corrects the faulty portion by using the prosign C. When necessary, the prosigns AA, AB, WA, or group numbers are used as is done in requesting repetitions.

Example

Station MB6 repeats the second group of the text as "XVBT" which is incorrect. The originating station replies:

MB6 V RL4 C WA KVWR-XVRT K

or

If a group count is used:

MB6 V RL4 C 2-XVRT K

Station MB6 repeats back the corrected portion of the message before receiving the "correct" sign from the originating station:

RL4 V MB6 WA KVWR-XVRT K

MB6 V RL4 C $\overline{\text{AR}}$

or

If a group count is used:

RL4 V MB6 2-XVRT K

MB6 V RL4 C $\overline{\text{AR}}$

c. Transmitting to silent station. When for purposes of deception or concealment or for any other reason it is desired that a receiving station make no transmission whatever in connection with a message addressed to it, the prosign F meaning "Do not answer" is inserted in the heading. The F type message is usually sent twice to insure accurate reception by the receiving station. The entire message including the heading, text, and ending are repeated.

Example

6PG V NK2-F- $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ 102325D $\overline{\text{IMI}}$ 6PG V
NK2-F- $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ 102325D $\overline{\text{AR}}$

20. EXECUTIVE METHOD. a. The prosign $\overline{\text{IX}}$ is inserted in the heading of a message, before the first $\overline{\text{BT}}$, to mean: "The message following is a preparatory command and is not to be acted upon until the executive signal is received." Executive method messages never include the "date" or "group count."

Example

(Call) NK2 V 2FR $\overline{\text{IX}}$ $\overline{\text{BT}}$ FIRE INITIAL ROUND
BY COMMAND $\overline{\text{BT}}$ 0635C K

(Response) V NK2 R $\overline{\text{AR}}$

b. Until the signal of execution is sent, no transmission whatsoever will be made in the net unless it pertains directly to the preparatory order just issued, as, for example, a revoking order or the "executive signal." The executive signal consists of the prosign $\overline{\text{IX}}$ followed by a 5-second dash, the end of which is the instant of execution. It is always preceded by a call unless, due to lack of time, it must be included in the initial message.

Examples

(1) NK2 V 2FR $\overline{\text{IX}}$ (5-second dash) $\overline{\text{AR}}$

(2) Should there be insufficient time to permit receipting for the initial message before transmission of the executive signal, this signal may be transmitted directly at the end of the message, as follows:

NK2 V 2FR $\overline{\text{IX}}$ $\overline{\text{BT}}$ FIRE INITIAL ROUND BY
COMMAND $\overline{\text{BT}}$ 0635D- $\overline{\text{IX}}$ (5-second dash) $\overline{\text{AR}}$

c. The prosign $\overline{\text{IX}}$ may be repeated a few times awaiting transmission of the 5-second dash.

21. MISCELLANEOUS. a. Test signals. (1) An operator may test his transmitter by sending a series of five or six V's followed by the call sign and terminating with an ending sign.

Example

VVVVVV AM6 VVVVVV AM6 AR

(2) A station having difficulty tuning in another station's signals may ask that station to send a series of V's to permit tuning in, by using the operating signal QVF meaning "Send a series of V's on this frequency (or on kcs)."

Example

D8A V AM6 QVF K

or

D8A V AM6 QVF 4145 K

The latter example indicates that D8A is to send V's on a frequency of 4145 kilocycles.

Station D8A complies as follows:

AM6 V D8A VVVVVV D8A VVVVVV D8A K

This procedure may be repeated if necessary, but in all cases tuning signals will be kept to the minimum required for proper adjustment of equipment.

b. Timing signals. Time may be requested and transmitted by use of the operating signals QYT.

Example

Station 3MY asks MB6 for the time:

MB6 V 3MY INT QYT K

To give 3MY the time at exactly 0946D, station MB6 transmits:

3MY V MB6 QYT 0946D (5-second dash) K

The 5-second dash terminates at exactly the time indicated and may be preceded by a series of separate signs when its transmission is slightly delayed.

SECTION III

SINGLE CALL SIGN METHOD

22. GENERAL. a. The purpose of the single call sign method is to conceal the identity of the net control station and the direction of traffic flow. This method deprives the enemy traffic analysts of valuable information used in determining tactical radio net organization. It is not intended however, that this section will change basic procedure rules as set forth in preceding sections I and II, for message handling.

b. The single call sign method provides for the elimination of the call sign of the net control station and the prosign "V" in communications between the net control station and other stations in a tactical net. The prosign "T" is always used in the call in communications between subordinate stations. Successful use of this method is dependent on three basic rules which govern calling and answering:

(1) A subordinate station starts all transmissions with its own call sign.

(2) The control station starts all transmissions with the call sign(s) of the station(s) with whom it works.

(3) The prosign "T," when used in the call, indicates that the station whose call sign precedes "T" is transmitting (or requests permission to transmit) to the station(s) whose call sign(s) follows "T."

g. Subordinate station calls the net:

Example

4LY T PSA K.....	(The call)	
4LY K }	Control }	
TB9 K }	TB9 }	answers
7LQ K }	7LQ }	

24. CONTROLLED METHOD. a. Under conditions of controlled communications, a subordinate station must obtain permission from the control station to communicate with a subordinate station.

b. Subordinate station desires to communicate with a subordinate station:

Examples

- (1) 4LY T 7LQ K..... (4LY requests permission to transmit to 7LQ)
 4LY K..... (Control station authorizes transmission)
 7LQ K..... (7LQ, hearing authorization, tells 4LY to go ahead)
- (2) 4LY T 7LQ K..... (4LY requests permission to transmit to 7LQ)
 4LY $\overline{AS}$ $\overline{AR}$ (Control station tells 4LY to wait)
 (7LQ remains silent)
- (3) 4LY T 7LQ K..... (4LY requests permission to transmit to 7LQ)
 4LY QQU K..... (Control station, through the use of an operating signal, directs 4LY to pass message to him for retransmission to 7LQ)
 (7LQ remains silent)

SECTION IV

NORMAL FORM MESSAGES

25. NORMAL FORM MESSAGES. a. For the information of operators, the following table shows the normal form message in the most complete form:

<i>Part</i>	<i>When sent</i>	<i>Example</i>
(1) The heading which includes—		
(a) The call	Always	ABC V MB6
(b) The preamble:		
Station serial number	When prescribed	NR9
Precedence	If assigned	-P-
Transmission instructions	If necessary	S7P-T-MRM-N-B4P
(c) The address:		
Originator's sign and call sign	If a relay or if there are action and information addressees	-A-MB6
Date-time group	Always	030316B
Action call sign(s) ..	If a relay or if there are information addressees	ABC
Information sign and call sign(s)	If necessary	-W-MRM
Exempt sign and call sign(s)	If necessary	-N-B4P
(d) Message instructions:		
Operating signals ...	If necessary	QQM
Group count	Always	GR49
Long break	Always	BT

- (e) Text:
 Text as filed with
 the operator.Always(Text)
- (f) Message ending:
 Long breakAlwaysBT
 Date-time groupAlways030316B
 Final instructions ...If any-B-S7P
 Ending signAlwaysK

b. The message appearing in the example above has the following meaning:

- (1) The heading—
 (a) The call“To net ABC from station MB6.”
 (b) The preamble:

Station serial num-
 ber (see par. 26x). “This is the ninth message that
 station MB6 has sent to net
 ABC.”

Precedence“The precedence assigned to this
 message is priority.”

Transmission in-
 structions“Station S7P retransmit this mes-
 sage to net MRM exempting
 station B4P.”

- (c) The address:
 Originator's sign and
 call sign (see par.
 26a)“The originator of this message
 is station MB6.”

Date-time group ...“This message was signed (or filed
 at the message center) at 0316
 in time zone B on the third day
 of the month.”

Action call sign(s) ..“This message is addressed to all
 stations in net ABC for action.”

Information sign and
 call sign(s): ex-
 empt sign and call
 sign(s).“This message is for information
 only to all stations in net MRM,
 exempting station B4P.”

(d) Message instructions:

Operating signal

QQM "This message is an exact duplicate of a message previously transmitted."

Group count (see

par. 26n) "The text of this message contains 49 groups."

Long break "Text of message follows."

(e) Text (As filed with the operator.)

(f) Message ending:

Long break "Text ends."

Date-time group (Same as date-time group in heading.)

Final instructions .. "There is more to follow to station S7P."

Ending sign "Go ahead, transmit. This is the end of my transmission to you and a response is necessary."

SECTION V

PROSIGNS

26. PROSIGNS. The following is a complete list of prosigns. These prosigns must be memorized by operators.

a. **"A"– "Originator's sign."** This means "The originator of this message is indicated by the call sign immediately following."

(1) When the originator is in direct communication with all addressees and there are no information addressees, the call serves as the address, and the originator's sign "A" is not necessary.

Example

Originator MB6; Action addressee 3MY: 3MY V MB6 $\overline{\text{BT}}$ etc.

(2) When "A" is used it marks the beginning of the address. The date-time group separates the call sign of the originator from the call sign(s) of the addressee(s) in normal form messages. In abbreviated form messages the separative sign "-" is used to separate the call sign of the originator from the call sign(s) of the addressee(s).

Examples

(a) *Normal form.* Message is originated by 2FR and addressed for action to 3MY (relayed via MB6):

NK2 V 2FR-T-A-2FR 161430Z 3MY GR16 $\overline{\text{BT}}$ etc.

(b) *Abbreviated form.* Message is originated by MB6 and addressed for action to 4LY (relayed via 3MY):

3MY V MB6 -T-A-MB6-4LY $\overline{\text{BT}}$ etc.

b. $\overline{\text{AA}}$

"Unknown station" (see par. 9f).

c. $\overline{\text{AA}}$

"All after" (see par. 16d(4), examples 3, 4, 5, and 11).

d. $\overline{\text{AB}}$

"All before" (see par. 16d(4), examples 2 and 6).

e. $\overline{\text{AR}}$

Ending sign. "This is the end of my transmission to you, and no response is required or expected." (See par. 6.)

f. $\overline{\text{AS}}$

"Wait" (see par. 9a).

g. $\overline{\text{B}}$

"More to follow" (see par. 16e).

h. $\overline{\text{BT}}$

"Long break" The long break is used as the last prosign in the message heading and the first prosign in the message ending to separate the text from other parts of the message. It immediately precedes and follows the text.

i. $\overline{\text{C}}$

"Correct," "You are correct," or "Correct version is" (see par. 16d(4), examples 10 and 11, and par. 19b).

j. $\overline{\text{D}}$

"Deferred" (precedence indicator). (See par. 14.)

k. "EEEEEEEEEE"

"Error" (see pars. 16d and g).

l. "F"

"Do not answer" (see par. 19c).

m. "G"

"Repeat back" (see par. 19b).

n. "GR" "Group or groups." (1) In the message instructions, GR followed by numeral(s) means "The text of this message contains the number of groups indicated." GR plus the numeral(s) which immediately follows is termed "the group count."

(2) Rules for counting groups:

(a) Count groups between $\overline{BT}$ and $\overline{BT}$.

(b) Count each word as one group except as noted in (d) and (e) below.

(c) Count punctuation marks as groups only when spelled as words.

(d) Count each group of characters, such as letters, figures, references, or cryptographed groups, as one group.

(e) Hyphenated words and hyphenated names count as one group.

Examples

Written	Transmitted	Group count
BRAY-CORBIE	BRAYCORBIE	1
BRAY HYPHEN CORBIE	BRAY HYPHEN CORBIE	3
NEW YORK	NEWYORK	1
XAM RSK DTU	XAM RSK DTU	3
XAMPQ DOFLG RENWP	XAMPQ DOFLG RENWP	3
LT. C. R. ADAMS	LT C R ADAMS	4
CG	CG	1
21½	21 AND 1 $\overline{XE}$ 2	1

<i>Written</i>	<i>Transmitted</i>	<i>Group count</i>
(35.6-81.9)	* $\overline{KK}$ 35 $\overline{AAA}$ 6 $\overline{DU}$ 81 $\overline{AAA}$ 9 $\overline{KK}$	1
21.6	216	1
21 POINT 6	21 POINT 6	3

*Authorized when transmitting map coordinates only.

o. "**HM**" "**Emergency silence**" (see par. 13e).

p. "**II**"- "**Separative sign**" In certain instances the separative sign (sent dit dit dit dit) must be transmitted between characters of adjacent groups to insure that the receiving operator will separate the groups correctly. In examples in this manual a short dash (-) is used to illustrate when the transmitting operator sends the separative sign. The receiving operator is not required to copy this prosign. It is used:

(1) Before and after all prosigns in the call, preamble, and address, except "V," " $\overline{AA}$," and "NR."

Example

NK2 V 2FR P-T-A-2FR 161415Z 3MY-W-RL4
GR14 $\overline{BT}$ etc.

(2) In abbreviated form messages the separative sign is also used to separate the originator's call sign from the action addressee(s) call sign(s).

Example

3MY V MB6-O-T-A-MB6-4LY $\overline{BT}$ etc.

(3) Between the call and the beginning of repetition of a message to be repeated back.

Example

3MY instructs 4LY to repeat a message back:
4LY complies:

3MY V 4LY-4LY V 3MY-P-G- $\overline{BT}$ etc.

(4) To separate call signs belonging to adjacent message components or adjacent multiple transmission instructions.

Example

3MY S7P V MB6-3MY-T-4LY-S7P-T-AR3-A- MB6 etc.

(5) To separate messages sent in strings, see paragraph 16e.

(6) In procedure messages, to separate portions of the text.

Example

MB6 V 3MY IMI AB BT-3 TO 6-AA 48 K

q. "IMI"

"Repeat, or I will repeat" [see par. 16d(4)].

r. "INT"

"Interrogatory" [see pars. 7b and 16d(5)].

s. "IX"

"Execute to follow" (see par. 20a).

t. "IX"

"Executive signal" (5-second dash) (see par. 20b).

u. "J"

"Verify and send correct version" (see par. 16d(4), examples 10 and 11).

v. "K"

"Ending sign." "Go ahead; transmit. This is the end of my transmission to you and a response is necessary." (See par. 6.)

w. "N"

"Not received, or exempted." (1) Used alone or with identification data, "N" means "Not received" or "Message indicated not received."

Example

(a) MB6 asks 3MY if he (3MY) has received the message just transmitted by MB6:

3MY V MB6 $\overline{\text{INT}}$ R K

Not having received it, 3MY transmits:

MB6 V 3MY N K

(b) 3MY asks S7P if he has received MB6's message 161430Z:

S7P V 3MY $\overline{\text{INT}}$ R MB6 161430Z K

Not having received the message, S7P transmits:

3MY V S7P-N-MB6 161430Z K

(2) The prosign "N" exempts the station(s) whose call sign(s) follow it from inclusion in a collective call sign preceding it. "N" may be used in this manner in the call, transmission instructions, or address.

Examples

(a) In the call:

ABC-N-3MY V MB6 K

(b) In the transmission instructions:

RIA V 2FR-NK2-T-ABC-N-3MY-A-etc.

(c) In the address:

NK2 V 2FR-T-A-2FR 161430Z ABC-N-3MY GR etc.

(3) The prosign "N" following "T" in the transmission instructions, indicates that the station called is not to forward the message to those addressees whose call signs follow "N."

Example

NK2 V 2FR-T-N-S7P-A-2FR 161431Z S7P 3MY GR etc.

x. **"NR" "Station serial number."** (1) In the preamble, "NR" with numerals means "Station serial number is as indicated."

Example

NK2 V 2FR NR8-O-etc.

(2) In multiple call transmissions, the station serial number applicable to each called station is given in the same sequence as the call signs in the call.

(3) "NR" preceded by "R" or "N" or equivalent operating signals and followed by numeral(s) means "Message(s) with station serial numbers as indicated received (or not received)."

Examples

(a) NK2 receipts for 2FR's NR8 message:

2FR V NK2 R NR8 $\overline{AR}$

(b) NK2 receipts for 2FR's NR8 to 12 inclusive:

2FR V NK2 R NR8 TO 12 $\overline{AR}$

(c) NK2 indicates 2FR's NR9 not received:

2FR V NK2 N NR9 K

(4) "NR" preceded by " $\overline{IMI}$ " means "Repeat station serial number of message just transmitted."

Example

2FR V NK2 $\overline{IMI}$ NR K

(5) "NR" preceded by " $\overline{INT}$ " and followed by numerals means "Is the station serial number of last message as indicated?"

Example

2FR V NK2 $\overline{INT}$ NR9 K

y. "O"

"Urgent" (precedence indicator). (See par. 14.)

z. "OP"

"Operational priority" (precedence indicator).
(See par. 14.)

aa. "P"

"Priority" (precedence indicator). (See par. 14.)

ab. "R"

"Received" (also routine precedence indicator).
(See par. 14.)

ac. "T"

"Transmit to " (1) In the transmission instructions of a plaindress message, "T" alone means "Station called transmit this message to all addressees."

Example

2FR directs NK2 to transmit to all addressees:

NK2 V 2FR-T-A-2FR 161430Z S7P 3MY GR12 $\overline{\text{BT}}$ etc.

(2) In the transmission instructions, "T" followed by call sign(s) means "Station called transmit this message to station(s) whose call sign(s) followed 'T'."

Example

2FR directs NK2 to transmit message to 3MY:

NK2 V 2FR-T-3MY-A-2FR 161812Z 3MY-W-6PG
GR18 $\overline{\text{BT}}$ etc.

(3) In the transmission instructions, "T" preceded and followed by call signs means "Station whose call sign precedes 'T,' transmit this message to station(s) whose call sign(s) follows 'T'."

Example

2FR calling both NK2 and 6PG requests NK2 to transmit message to 3MY:

NK2 6PG V 2FR-NK2-T-3MY-A-2FR 181927Z 3MY
6PG GR29 $\overline{\text{BT}}$ etc.

ad. "V"

"From" (see par. 8a).

ae. "W"

"For information to....." Where there are both action and information addressees, "W" separates the call signs of the two types of addressees. Call signs of addressee(s) preceding "W" are action addressee(s); call signs of addressee(s) following "W" are information addressee(s). When there are only action addressee(s) "W" is omitted. When there are only information addressee(s) all call signs representing addressee(s) follow "W."

(1) All addressees are action addressees in message originated by 2FR:

NK2 V 2FR-T-A-2FR 161215Z RL4 3MY GR18 $\overline{\text{BT}}$ etc.

(2) All addressees are information addressees in message originated by 2FR:

NK2 V 2FR-T-A-2FR 161216Z-W-RL4 3MY GR19 $\overline{\text{BT}}$ etc.

(3) 3MY is an action addressee and RL4 is an information addressee in message originated by 2FR:

NK2 V 2FR-T-A-161430Z 3MY-W-RL4 GR20 $\overline{\text{BT}}$ etc.

af. "WA"

"Word after." (See par. 16d(4), examples 7 and 9 and par. 19b.)

SECTION VI

OPERATING SIGNALS

27. OPERATING SIGNALS. a. A complete list of operating signals for use within Army Ground Forces and by them for communication with Allied ground forces appear in FM 24-12. Those signals marked "AIR" in the Notes column may also be used for communication with U.S. and Allied aircraft. The signals in FM 24-12 are identical to signals marked "ARMY" in the Notes column of CCBP 2-2.

b. *These signals possess no security and must be regarded as the equivalent of plain language. This must be borne in mind by all operators and great care must be taken to avoid giving away information of value to the enemy.*

c. The prosign $\overline{\text{INT}}$ preceding an operating signal indicates that the matter following is in the form of a question. The operating signal QQZ may precede another signal to give a negative meaning in case no signal with the desired negative meaning is listed.

Examples

(1) QYC MB6 means, "I am in communication with MB6."

(2) $\overline{\text{INT}}$ QYC MB6 means, "Are you in communication with MB6?"

(3) QQZ QYC MB6 means, "I am not in communication with MB6."

d. Blanks in the meanings of operating signals will be filled in, unless inclosed in parentheses, in which case use of the blank space becomes optional. Blanks will be filled in by use of appropriate call signs, time groups, numerals or letters, etc. Only in exceptional cases will clear language be used for this purpose. Types of emission will be indicated when filling in blanks by use of the following International Abbreviations:

- A1 for CW
- A2 for MCW
- A3 for voice (R/T)
- B for spark

SECTION VII

MISCELLANEOUS

28. PROCEDURE MESSAGES. a. A procedure message is a short message normally originated by an operator in conjunction with traffic handling and net operation. It may consist of operating signals, pro-signs, call signs, or parts of messages. The examples 1-13 given in paragraph 16d(4) are typical procedure messages.

b. A procedure message does not require such elements as the precedence, group count, or date-time group.

29. SERVICE MESSAGES. a. A service message is a short message normally originated by traffic handling personnel other than operators. It may consist of information relative to transmission errors, cryptographic errors, lost messages, etc.

b. A service message is ordinarily transmitted as an abbreviated or normal form message.

Examples

Assume an abbreviated form message bearing date-time group 031425C was transmitted by 3MY to MB6 and the message cannot be deciphered at station MB6. MB6 sends the following service message:

3MY V MB6 BT QJM 031425C BT 031450C BT

A normal form message is transmitted and receipted for:

3MY V MB6-O-031525C GR10 $\overline{BT}$
OCEOH KFLMU DWRNS PYFLG WNPXX DUULV
RENNM SLLXX OCEOH KFLMU $\overline{BT}$ 031525C K
MB6 V 3MY R $\overline{AR}$

Assume the message center personnel at 3MY desire groups 4 to 6 inclusive repeated. The following service message is sent:

MB6 V 3MY 031550C GR5 $\overline{BT}$ QMO 031525C 4 TO 6 $\overline{BT}$
031550C K

30. AUTHENTICATION. The use of authentication will usually be governed by local instruction. The examples listed below illustrate how examples covered in this book may be modified if authentication is used.

a. For purpose of instruction the following apply to the example cited below:

(1) Net test group AVR produces authenticator X at 1258Z.

(2) Test elements R and T produce authenticator Z at 1258Z.

(3) Test elements B and N produce authenticator G at 1259Z.

(4) Test elements Q and P produce authenticator V at 1300Z.

(5) Net test group PRL produces authenticator W at 1301Z.

(6) Test elements S and W produce authenticator T at 1301Z.

b. **Establishing a net.** (1) A net is established (par. 10).

ABC V MB6 AVR XX QPA RT 1258Z K
 MB6 V RL4 ZZ QPA BN 1259Z K
 MB6 V S7P GG QPA QP 1300Z K
 MB6 V 3MY VV K
 ABC V MB6 R AR

(2) A net is established in which one station does not report (fig. 2, par. 13h).

MRM V D8A AVR XX QPA RT 1258Z K
 D8A V AM6 ZZ QPA BN 1259Z K
 D8A V B4P GG QPA QP 1300Z K
 AM6 B4P V D8A VV R AR
 AR3 V D8A PRL WW QPA SW 1301Z K
 AR3 V D8A PRL WW QPA SW 1301Z K
 AR3 V D8A PRL WW QPA SW 1301Z K
 D8A V AR3 TT QMG K
 AR3 V D8A R AR

c. Frequency adjustments (par. 11).

S7P V MB6 QPA RT 1258Z K
 MB6 V S7P ZZ QPA BN 1259Z K
 S7P V MB6 GG QHF 8 K
 MB6 V S7P INT QMF K
 S7P V MB6 QMF AR

d. The NCS orders the net closed using the operating signal QNW (par. 13g).

ABC V MB6 AVR XX QPA RT QNW 1258Z K
 MB6 V RL4 ZZ QPA BN 1259Z K
 MB6 V S7P GG QPA QP 1300Z K
 MB6 V 3MY VV R AR

e. The NCS orders emergency silence using pro-signal HM (par. 13e).

ABC V MB6 AVR XX HM HM HM 1258Z AR

f. Subordinate station obtains permission to leave net and transmit to a station in another net (par. 13f).

U4S V TB9 QLG AM6 QPA RT 1258Z K
 TB9 V U4S ZZ QPZ AR
 MRM V TB9 QMG QMM AM6 QPA BN 1259Z K

TB9 V D8A GG QPZ QPA QP 1300Z K

TB9 V AM6 VV QPA SW 1301Z K

AM6 V TB9 TT-AM6 V TB9-O-BT (TEXT) BT
041250Z K

g. Transmission of messages (par. 15c).

Routine message: 3MY V MB6 BT (TEXT) BT
082320C QKA CC K

Urgent message: 3MY V MB6 -O- BT (TEXT) BT
082320C QKA CC K

32.3 Fort Monroe—5-14-45—127,100